

NUCLEAR DIVISION NEWS

A Newspaper for the Employees of the Nuclear Division, Union Carbide Corporation

Volume 14/Number 18 September 8, 1983

UNION
CARBIDE



MONITORING THE MATCH — Gary Hall (left), Alan Solomon and Al Geist watch the robot arms play a game of checkers.

Robotics systems demonstrated in 'checkers matches' at Y-12

In Building 9704-1 at Y-12 they've been playing checkers on company time, and making no effort to hide it.

The catch is that the players aren't employees. In fact, they're not even human: the arms that move the checkers are stainless steel, and the "minds" controlling the moves reside in two tabletop computers.

Obviously, though, there are human minds behind the computers, and these belong to mathematician Alan Solomon, of Computer Sciences' Mathematics and Statistics Research organization, and a four-man research team involved in a small-scale project to demonstrate the control of multiarmed robotics systems. In addition to their checkers skills, the two robot arms can also pass objects back and forth to each other and use tools together.

Joint effort

Solomon conceived the project as an outgrowth of his interest in the mathematical problems involved in computer-controlled robotics. His informal conversations on this subject with Ernest Hall of the University of Tennessee's Electrical Engineering Department led to cooperation between their two staffs. One member of Solomon's team, con-

sequently, is Thomas Swift, a UT graduate student in electrical engineering. Also, the university loaned a computer and a robot arm for the research.

Solomon said that, although programmable robots are being used increasingly in industry, few of these have more than one arm. The primary reason for this is that there are many problems inherent in developing such systems, which involve very complex mechanics, electronics and engineering. "It's very difficult to keep the arms from hitting each other," Solomon said.

Advantages of multiple arms

But the advantages of multiarmed robots would be many. One-armed industrial robots require great accuracy and precision, and they can't be used for many complex tasks. Multiple arms would enable robotic devices to perform a much wider range of tasks — including jobs like construction and repair work in hazardous environments, such as in space or under the ocean — more efficiently.

"A one-armed device can be given a variety of 'grippers' or hand-like devices, or special tools such as welding devices or paint spray-

United Way campaign begins September 12

The Nuclear Division's 1983 United Way campaign kickoff will be held Monday, September 12, at 10 a.m. at the Oak Ridge Civic Center.

Dr. Robert M. Overholt, an allergy and immunology specialist in Knoxville, will be the keynote speaker. General Campaign Chairman William H. Dodson, Nuclear Division President Roger F. Hibbs and Nuclear Division Vice President Clyde C. Hopkins are scheduled to present welcoming remarks and introductions.

Seven new counties, Campbell, Cumberland, Hamblen, Hamilton, McMinn, Monroe and Rhea, can receive support for the first time this year through the Nuclear Division's payroll-deduction plan. Other counties already being served in this manner are Anderson, Blount, Knox, Loudon, Morgan and Roane.

Representatives from United Way agencies and programs will present exhibits at the meeting and be available to answer questions about services.

Plans have been made for the meeting to be videotaped by Tennessee Cablevision and shown at a later date on Oak Ridge cable channel 7.

Matching Gift Program participation to end

Union Carbide's Matching Gift Program provides for Corporate contributions to approved public and private institutions of higher education in amounts equal to those made by eligible employees within a range of \$50 to \$1,000 per individual each year. Eligible employees include regular, full-time employees with one year or more of continuous service. The program is budgeted and administered on a calendar-year basis; and since Carbide will no longer be associated with these operations after the first quarter of calendar-year 1984, Nuclear Division personnel will not participate in the program after December 31, 1983.

This announcement is being made early so that eligible employees who wish to participate will have sufficient time to plan contributions during the remainder of this calendar year. All gifts verified by recipient schools as having been made during 1983 will be matched by Carbide, even though notification from the schools may not be received by the Corporate office until after the first of the year.

Detailed information about the Matching Gift Program may be obtained from the Benefit Plans Office at each installation.

(Please turn to page 8)

Retirees plan reunion/picnic October 6

UCRA

by Virginia Donahoe,
UCRA president
576-1786

Sarah McIntyre's suggestion of "The Lost Chords" has been selected as winner of the contest to name our newly formed novelty band. Runner-up was "The Keenagers Band," submitted by Frances Hurley.

We received 22 entries, and the competition was keen! Thanks to everyone who participated.

October reunion/picnic

Be sure to mark your calendar now for a very special event:

What: Reunion/picnic

When: Thursday, October 6

When: 10 a.m.-4 p.m.

Where: Clark Center Recreation Park

Cost: \$1 per person (for lunch)

Theme: Arts and Crafts Day

A plate lunch, including barbecue sandwiches from Carey Hilliard's Restaurant, will be served. Lemonade and coffee will be included, and ice cream bars will be furnished by the ORGDP Credit Union.

Our 1979 picnic theme, "Arts and Crafts," was so popular that we decided to repeat it this year. Marge Walker, coordinator, suggests that participants bring card tables on which to display their handicrafts.

The musical debut of "The Lost Chords" also will include a sing-along period. Other picnic activities will include a hole-in-one golf contest, organized by Don Matlock.

The picnic will be held rain or shine. All Nuclear Division retirees and spouses, widows and widowers of retirees are invited; UCRA membership is not required. 1984 membership forms and cards will be available for new members or those who would like to renew for next year. Please remember to bring folding chairs.

Trip Reservation Form

Make checks payable to: U.S. Travels

Mail to: UCRA, P.O. Box 3501, Oak Ridge, TN 37830

NAME: _____

ROOMMATE: _____

ADDRESS: _____

TELEPHONE: (Home) _____

(Work) _____

Please enclose deposit of \$25 per person for EPCOT trip.

Travel news

We recently added a second bus for our Thanksgiving trip to EPCOT. This five-day trip costs \$239, which includes all expenses (and admission to EPCOT or Disney World) except meals. We will leave on Wednesday, November 23, and return the following Sunday, so employees could make the trip with us by using only one day of vacation leave.

A deposit of \$25 per person will ensure a reservation. Call the UCRA office for more information.

Paducah picnic

Plans also are under way in Paducah for the annual picnic, set for 5 p.m. on Thursday, September 15, at Noble Park.

Guests are asked to bring side dishes and desserts, but the main dish of barbecue will be provided. After-dinner entertainment has been tentatively scheduled for the event.

All Paducah Plant retirees and their spouses are invited. You do not have to be a Retirees' Association member to attend.

Some of our members are interested in forming a camper/trailer travel club. Earl and Laura Thomas, who are members of two national clubs of this type, have agreed to help organize our group, with assistance from Floyd and Lil Kyte.

If you are interested in forming such a club, please call the Kytes at 482-1676. An organizational meeting is being planned, and we will list its date, time and place in our October column.

Bowling news

Welcome to all new participants in the UCRA Bowling League! We're off to a great start, with 16 teams, up from 10 last year.

We're still in need of substitute bowlers, however, so please call M. J. Gibson at 457-6627, if you'd like to volunteer.

Question Box

What is UCC policy on jail sentence?

QUESTION: I understand that it is Company policy that time lost from work as a result of being in jail is counted as unexcused. I also have been told that if an employee misses five consecutive workdays that are considered unexcused, he or she will be terminated. How will these policies be affected by the new strict "Driving While Intoxicated" law that requires mandatory jail sentences?

ANSWER: Under Company policy, time lost from work as the result of incarceration is counted as unexcused absence. Consistent with this policy, absence from work due to a jail sentence for driving while intoxicated would also be recorded as unexcused, and an unexcused absence for five consecutive days is cause for termination.

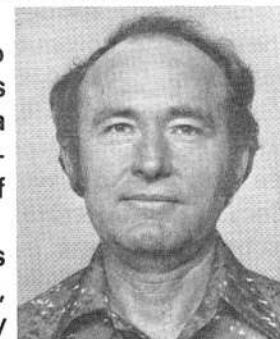
David E. Haverly Sr. dies in Knoxville

David E. Haverly Sr., a designer in the Engineering organization at Y-12, died August 25 at Fort Sanders Regional Medical Center in Knoxville.

Mr. Haverly, who lived at 8641 Fox Lonas Road, Knoxville, was a 24-year Carbide employee and a veteran of the U.S. Army.

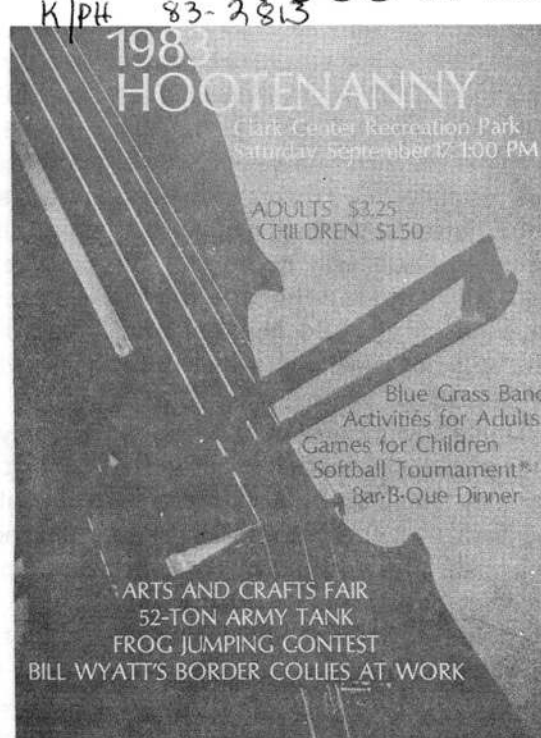
Survivors include his wife, Sandra R. Haverly, son, David E. Haverly Jr., and parents, Mr. and Mrs. H. K. Haverly, all of Knoxville; sister, Doris Harveston, Mobile, Ala.; and brother, Elmer Haverly, Knoxville.

Graveside services were conducted at Woodlawn Cemetery in Knoxville. The family has requested that memorial contributions be made to the Humane Society or to a charity of the donor's choice.



Mr. Haverly

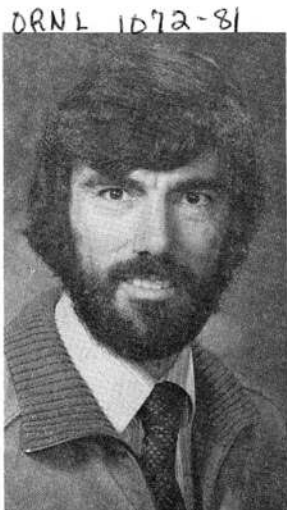
1983 K-25 Hootenanny



In addition to the traditional activities and barbecue dinner, this year's K-25 Hootenanny, set for September 17 at Clark Center Recreation Park, will feature some "special attractions," including:

- A variety of popular music by a 25-member, Tennessee Army National Guard band;
- Country-western music by the Roane County Travelers;
- An exhibition of herding techniques by Bill Wyatt and his border collies;
- A clogging demonstration by the Clinch River and Hinds Creek Cloggers;
- An arts and crafts fair featuring work by ORGDP employees and other artists; and
- A variety of contests for "children of all ages."

Tickets for the event, which begins at 1 p.m., may be obtained from Ann Crowe (4-8945), Dave Foster (4-8270) or division representatives.



Saltmarsh



Dunlap

In Fusion Energy

Saltmarsh, Dunlap named to ORNL posts

Organizational changes in ORNL's fusion program have been announced by O. Bill Morgan Jr., director of the Fusion Energy Division.

Michael J. Saltmarsh

Michael J. Saltmarsh, who has served for the past two years as head of the division's tokamak experimental section, has been named coordinator of the development and technology elements of ORNL's fusion program, carried out in five research divisions. He will have primary responsibility for overseeing the bulk materials, plasma materials interaction, generic environmental impact statement, and neutronics and shielding programs within ORNL. In addition, he has been appointed to coordinate the plasma technology elements of the Toroidal Program Planning Office at Princeton University's Plasma Physics Laboratory.

Saltmarsh joined Union Carbide in 1968 in ORNL's Electronuclear Division, which later became the Physics Division. He came to the Fusion Energy Division in 1977, at the time the division's ISX-A tokamak experiment was under construction, and served as head of ISX operations before being appointed head of the tokamak experimental section in 1981. He holds a BA degree in physics and a DPhil degree in nuclear physics, both from the University of Oxford, England. He has conducted nuclear and high-energy physics research at the University of Grenoble, France, and at the European Center for Nuclear Research in Geneva.

He and his wife, Sheila, have two children and live at 105 Pomona Road, Oak Ridge.

Julian L. Dunlap

Julian L. Dunlap has been named to replace Saltmarsh as head of the tokamak experimental section.

Dunlap's most recent position has been as associate head of the tokamak group. He holds a BEE degree from the Georgia Institute of Technology, where he was a member of Phi Kappa Phi and Tau Beta Pi honorary societies, and a PhD in physics from Vanderbilt University. He joined Union Carbide in 1959.

Dunlap and his wife, Louise, live at 116 Clark Lane, Oak Ridge; they have two children.

Malinauskas appointed director of NRC Programs at ORNL

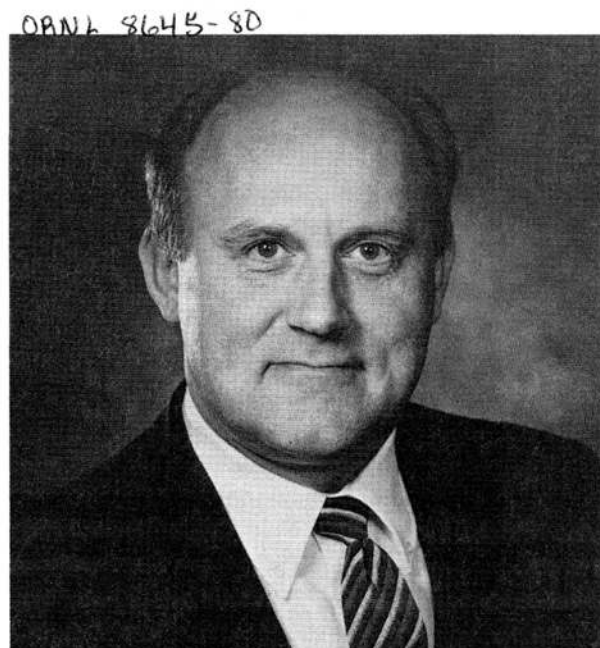
Anthony P. Malinauskas has been appointed director of Nuclear Regulatory Commission (NRC) programs at ORNL. He succeeds A.L. (Pete) Lotts, who has been named director of the Atomic Vapor Laser Isotope Separation work at ORGDP.

Among the major NRC-sponsored activities at ORNL are reactor safety research; technical support for nuclear reactor regulation; safeguards, fuel cycle and environmental research; risk assessment; and standards development.

Malinauskas' work has centered on radioactive source term analysis, which refers to the study of potential releases of radioactive fission products in hypothetical nuclear power plant accidents.

As manager of the chemical development section in ORNL's Chemical Technology Division since 1974, he also has been involved in the development of nuclear fuel reprocessing, separation science, gas kinetic theory and aerosol physics.

Malinauskas is currently a member of several organizations directly related to Three Mile Island (TMI) recovery operations. These include the Technical Advisory Group for TMI Decontamination Operations; Technical Working Group on Radiation and Environment; Technical Assistance and Advisory Group for TMI Recovery; and the Atomic Industrial Forum Committee on TMI Recovery. He also is a member of the DOE Technical Working Group on Light Water Reactor Accident Source Terms and the International Atomic Energy Agency Technical Committee



Anthony P. Malinauskas

on Airborne Fission Product Release Following Extensive Core Damage Accidents.

He has been a member of the ORNL staff since 1962. Before joining the Chemical Technology Division, Malinauskas was manager of the transport properties group in the Reactor Chemistry Division. He received a BS degree in chemistry from King's College, an MS degree in physical chemistry from Boston College and a PhD in physical chemistry from the Massachusetts Institute of Technology.

Malinauskas serves on the editorial board of *Separation Science and Technology* and is a member of the American Chemical Society, American Physical Society and the American Nuclear Society.

He and his wife, Barbara, live at 107 Newton Lane, Oak Ridge. They have six children.

Registration set for UT Oak Ridge program

Fall registration for the University of Tennessee's Oak Ridge Resident Graduate Program will be held September 14 and 15 from noon to 6 p.m. Graduate courses in economics, management, statistics, engineering, chemistry, computer science, mathematics and physics will be offered.

The engineering management program, first offered last fall, is designed for experienced engineers who wish to become better prepared as technical managers.

For more information on programs or courses, call the UT Oak Ridge office at 576-3429.

**UNION
CARBIDE**

Nuclear Division News

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UNION CARBIDE CORPORATION
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PADUCAH
Laura Trevor, Bell 208

Larry Payne of the Paducah Plant
Employee Relations Division.

ORNL 4911-83



Janet T. Hodge
Central Management, ORNL

A native of Erwin, Janet T. Hodge joined the ORNL staff in 1965 as a typist in the Plant and Equipment Division. She also has worked as a secretary in the ORNL Employee Relations Division. Hodge currently is assigned to the Laboratory director's office, Central Management.

She attended East Tennessee State University.

Hodge and her husband, Larry, reside at 109 Paine Lane, Oak Ridge. She has three daughters.

4-12 215802



Jean Ann Norris
Industrial Engineering, Y-12

A 14-year Nuclear Division employee, Jean Ann Norris has worked in Y-12's Industrial Engineering Division since 1973. She began her career with Union Carbide as a secretary in the Y-12 Fabrication Division. Norris previously was employed by Merlin Real Estate & Insurance and by the University of Tennessee.

The Oak Ridge native received a BS in business administration from the University of Tennessee in 1981. She is a member of the Oak Ridge Chapter of PSI.

Norris lives at 1725 McMillan Station Road, Knoxville.

4-12 215803



Renee A. Beard
Nuclear Division General Accounting, Townsite

Renee A. Beard has served as information processing services coordinator since 1982. She previously worked in information processing for the General Accounting Division at ORGDP and Y-12.

A native of Knoxville, Beard attended East Tennessee State University and the University of Tennessee. She is a member of the Association of Information Systems Professionals.

She and her husband, Dexter, live at 5708 Lutie Road, Knoxville. They have a son.

Nuclear Division adds twelve t

Twelve more Nuclear Division secretaries have been named Certified Professional Secretaries by Professional Secretaries International, bringing the total to 170.

Certification is achieved by passing a two-day, six-part examination and by fulfilling work and educational requirements. The exam, which is given each May, covers behavioral science in business, business law, economics and management, accounting, communication applications and office administration and technology.

The state of Tennessee led the nation this year in the number of successful candidates for certification with 86.

Many colleges now offer credit for attaining certification. For more information about the program, contact Rachel Smith at 576-0407.

4-12 215798



Larinda J. Rowe
Maintenance, Y-12

A native of Alcoa, Larinda J. Rowe joined the Nuclear Division in 1979 as a stenographer in Y-12 Maintenance. She currently works in the Maintenance Engineering Department. Before coming to Y-12, she was employed by State Farm Insurance in Loudon.

She is a graduate of Knoxville Business College and has attended Roane State Community College.

Rowe lives at 196 North Purdue Avenue, Oak Ridge.

4-12 215800



Doris E. Maddux
Engineering, Y-12

A native of West Frankfort, Ill., Doris E. Maddux joined Union Carbide in 1972 as assistant librarian in the Engineering organization at ORNL. She also has worked as a secretary in Project Engineering at ORNL and transferred to Electrical Engineering at Y-12 last year. She was employed at Pette Supply Company, Paducah, for 16 years before coming to the Nuclear Division.

Maddux received an associate degree in business from Bethel College.

She and her husband, Cliff, live at Route 2, Powell. They have two children.

4-12 215799



Nora E. Copeland
Computer Sciences, Y-12

Nora E. Copeland joined the Nuclear Division in 1976 as a secretary in the Y-12 Fabrication Division. She currently works in the Production Management Department of the Computer Sciences organization at Y-12. Before coming to Union Carbide, she was employed at First National Bank & Trust Company of Rockwood.

She attended the Harriman State Area Vocational/Technical School and Roane State Community College.

Copeland, who grew up in Kingston, lives on Carriage Hill Drive in Clinton.

ORNL 4816-83



Kay M. Branam
Health and Safety Research, ORNL

Kay M. Branam, senior secretary in the Health and Safety Research Division, joined the ORNL staff in 1972. She worked as a secretary in the Health Physics Division for more than four years, joined the Analytical Chemistry Division in 1977 and moved to her present position in 1981.

A native of Lake City Branam is a graduate of the University of Tennessee's two-year secretarial program.

She and her husband, John, reside in the Mt. Paran Community of Jacksboro. They have two children.

o list of CPS's

ORNL 4810-83



Patricia M. Love
Central Management, ORNL

Patricia M. Love has been employed by the Nuclear Division for 15 years, beginning as a stenographer in Inspection Engineering, ORNL Central Management. She also has worked in the NSF Environmental Program Section and the Energy Division and currently serves as secretary to the director of the Conservation and Renewable Energy Program.

A native of Colquitt, Ga., Love attended Roane State Community College. She is a member of the Oak Ridge Chapter of PSI.

Love and her husband, Don, live at 1804 Plumb Creek Circle, Knoxville.

K/PH 83-2814



Nancy J. Walburg
Strategic Planning, ORGDP

A native of Culpeper, Va., Nancy J. Walburg joined the Nuclear Division in 1979 as a secretary in the Operating Contractors Project Office at ORGDP. Earlier this year, she became secretary to the manager, ORGDP Strategic Planning. She worked as a medical secretary for six years before coming to ORGDP.

She attended the University of Georgia and currently is enrolled at Roane State Community College.

Walburg lives at 137 Highland Avenue, Oak Ridge. She has four children.

Betty S. Miller
Advanced Isotope Separation, ORGDP

Betty S. Miller, a native of Clinton, joined Union Carbide in 1974, working in Separation Systems at ORGDP. She worked in the Operating Contractors Project Office for four years and transferred to the Advanced Isotope Separation Division in 1982. She currently is secretary to the AVLIS director.

Miller serves as membership chairman for the Oak Ridge Chapter of PSI.

She and her husband, Billy Joe, live at Route 1, Clear Branch Road, Lake City.

Y-12 215801



H. Yvonne Mitchell
Finance, Materials and Services, Y-12

H. Yvonne Mitchell joined the Y-12 staff in 1975 as a records clerk in the Material Control Department. She worked as a secretary in the Materials Department for two years and currently is a material order clerk in the Finance, Materials and Services Division. She was employed at Reserve Life Insurance Company before joining Union Carbide.

A native of Heiskell, Mitchell attended Knoxville State Area Vocational Technical School.

Mitchell resides at 2324 Gamble Road, Heiskell. She has a son.

K/PH 83-2787



Nancy E. Buttner
Electrical Engineering, ORGDP

Nancy E. Buttner, a native of Charlottesville, Va., joined the Nuclear Division in 1976 as a secretary in the ORGDP Separation Systems Division. She currently serves as secretary to the Electrical Engineering superintendent. Before coming to ORGDP, she was employed by the University of Virginia and the University of Tennessee.

Buttner is a member of the Oak Ridge Chapter of PSI.

She and her husband, Bill, live at 12308 West Kings Gate Drive in Farragut. They have two children.

K/PH 83-2812



Save Energy - Share the Ride

ORGDP

CAR POOL MEMBERS WANTED from Farragut to Portals 3, 2 and 8, day shift. Don Muldrew, plant phone 6-0353; or Lonnie Holleman, 4-9048.

CAR POOL MEMBERS WANTED from east end of Oak Ridge to any portal, day shift. Doug Janney, plant phone 4-9448; home phone 483-1619.

CAR POOL MEMBERS WANTED from Cedar Bluff Shopping Center to Portal 2, day shift. Fredrick Markham, plant phone 6-2504, home phone 691-3067; or Roy Munsey, plant phone 4-7903, home phone 693-0130.

RIDE NEEDED from Rockwood area to Portal 2, day shift. Mike Garrett, plant phone 4-7903; home phone 354-2348.

CAR POOL MEMBER NEEDED from West Town Mall to Portals 1, 2 or 4, day shift. George, plant phone 6-0506; home phone 690-6856.

CAR POOL MEMBERS WANTED from Karns Community to Portals 3 or 5, day shift. Tom Lemons, plant phone 4-8159; or Loren Lund, 6-2311.

ORNL

VAN POOL RIDERS NEEDED (room for two) from West Knoxville (Cedar Springs Shopping Center, Cedar Bluff, Middlebrook Pike, Vanosdale Road, Cloth World, Kingston Pike) to any portal except South, 8-4:30. Leon, plant phone 4-5723; home phone 693-3211.

BUS POOL MEMBERS NEEDED from the Burlington area, Asheville Highway, heading in the direction of I-640, stopping at Broadway and Tazewell Pike. The next stop is Papermill and Weisgarber, then to Cloth World on Kingston Pike. The next stop, via Kingston Pike, is Lovell Heights Shopping Center, then on via Pellissippi Parkway to all portals, 8-4:30. P. R. Long, plant phone 4-4154; or Twana Taylor, 4-7281.

RIDE NEEDED from Oak Ridge Highway between Karns and Solway to East Portal, 8:15-4:45. Peterson, plant phone 4-4483; home phone 690-3989.

VAN POOL RIDERS NEEDED from East Knoxville — down Middlebrook Pike, Cedar Bluff and back down Middlebrook Pike to Pellissippi Parkway to East and West Portals, 8-4:30. A. J. Boatwright, plant phone 4-6041; home phone 970-4231.

BUS POOL RIDERS NEEDED from Maryville via Highway 95, with stops in Lenoir City. Joel Horton, plant phone 4-3121; home phone (Maryville) 983-9160.

CAR POOL MEMBERS NEEDED from Louisiana Avenue area, Oak Ridge, to any portal, 8-4:30. Frank Foust, plant phone 4-6056; home phone 483-0350.

RIDE WANTED from Jackson Square, Oak Ridge, to East Portal, flexible shift. Aly Nasreldin, plant phone 6-3669 or 4-4267.

Y-12

CAR POOL MEMBERS NEEDED from Beaver Ridge United Methodist Church parking lot, Oak Ridge Highway, to North Portal, 8-4:30. Bob Cooper, plant phone 4-3430; home phone 691-8411.

VAN POOL RIDERS NEEDED from Lake City and Clinton, 8-4:30. Joe Foust, plant phone 4-5889; home phone 426-2947.

BUS POOL RIDERS NEEDED from Knoxville, I-40 at Alcoa Highway (Expo Inn), 8-4:30. Joel Horton, plant phone 4-3121; home phone (Maryville) 983-9160.

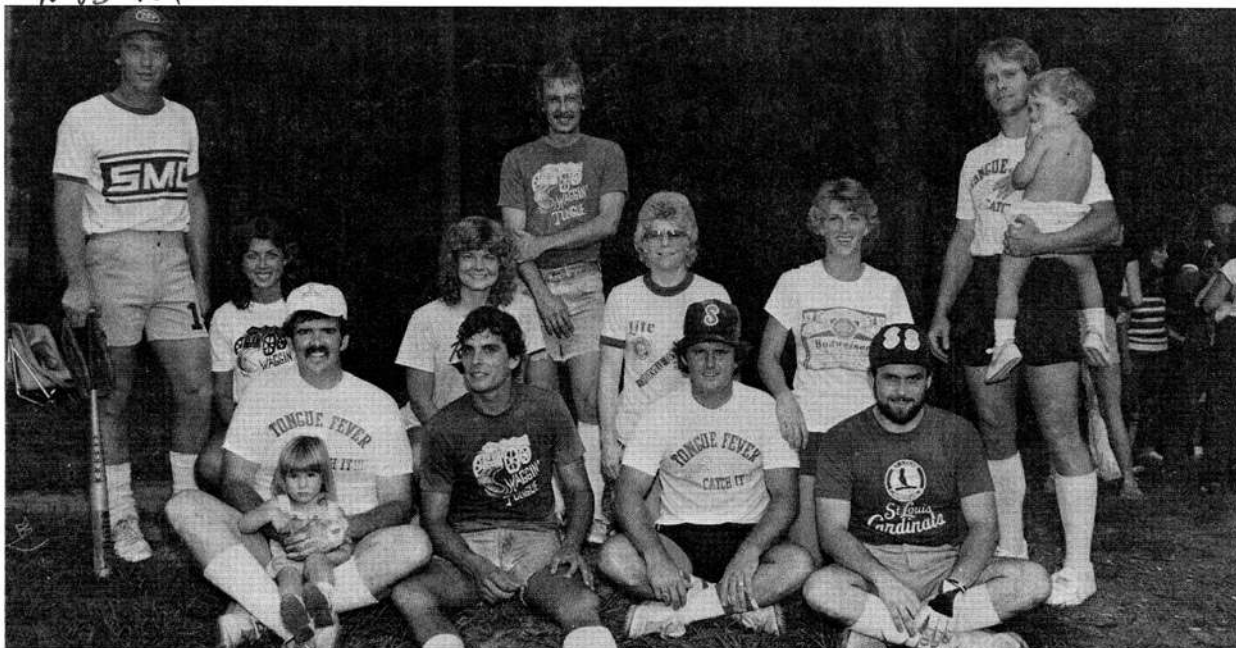
CAR POOL MEMBERS NEEDED from Cedar Bluff/Middlebrook Pike area to Bear Creek Portal, 8-4:30. Gerald Russell, plant phone 4-3658; home phone 691-3475.

VAN POOL RIDERS NEEDED from Andersonville, Norris and Clinton, 8-4:30. Charles Knowles, plant phone 4-2628; or Bob Worthington, home phone 457-3780.

CAR POOL MEMBER NEEDED from Country Club Apartments, Middlebrook Pike, to East or North Portal, 8-4:30. Cindy Ross Lundy, plant phone 4-1643; or Julie Robinson, 4-1651.

RIDE NEED from Cedar Bluff/Kingston Pike area, Knoxville, to Central Portal, 8-4:30. Chalice Burbage, plant phone 4-3272; home phone 690-4749.

CAR POOL MEMBER NEEDED from Blaine area to Y-12, any portal, day shift. Linda, plant phone 6-4940; home phone 933-4862.



LEAGUE AND TOURNEY CHAMPIONS — Members of "Waggin Tongue," who recently won the Mixed League and tournament softball championships, include, on the front row, from left, Andy Cooper (and daughter Heather), Bill Stone, Neal Nolan and Steve Braden. On the second row are, from left, Karen Ryan, Ann Huedepohl, Margaret Bond and Pam Morris. Standing are Dave Foster, Ben Partin and Bob Heidel (and son Eric).

N 83-174



CENTRAL DIVISION WINNERS — The "Stokers" captured the Central Division softball championship in the Mixed League. They are, kneeling, from left, John Adams, Rich Illick, Ray Starr and Tom Ford. Standing, from left, are Susan Patty, John Parks, Jo Ann Jordan, Doak Woodruff, Debra Freeney, Jim Edwards, Mona Goldston and Jeff Jones.

N 83-173



WEST DIVISION CHAMPS — Members of "Orange Crush", Central Division softball champions in the Mixed League, include, kneeling, from left, Neil Simcox, Larry Moore, John Royster and Robert Goins. Standing, from left, are Dale Knight, Mickey Woody, Dan King, Larry Petrowski, Geneva Underwood, Betty Groff, John Randolph, Janet Scott and Lib Hoagland. Janie Hancher and Jerry Sexton are not shown.

'Y-12 Day' scheduled at park



Y-12 Plant employees are invited to participate in Y-12 Day at Silver Dollar City, set for Saturday, September 17. Employees will be designated as official citizens of the Pigeon Forge theme park "city," and some may even be deputized to "keep order."

The \$7.95 ticket purchase price (a \$16.50 value) includes:

- Admission to the park from 9 a.m. to 6 p.m. and use of all facilities.
- One meal at the Pavilion or other locations, including a barbecue rib dinner. Hamburgers and hot dogs also will be available.
- A 30-percent discount at most Silver Dollar City shops.
- Campground reservations at \$6.75 per site during that weekend.
- Eligibility for door prizes and activities during the town meeting, which will last from approximately 6 to 8 p.m., after the park is closed to regular visitors.

Tickets may be purchased from division coordinators (persons wearing Silver Dollar City arm garters) or from the Y-12 Cashier, Timekeeping and Benefit Plans offices. Children under four will be admitted free.

Paducah softball winners announced

Regular-season play has ended in the Paducah Plant softball league. Final league standings are as follows:

Team	Won	Lost	Tied
Riff Raff	7	2	0
"D"enders	7	2	0
Bobcats	6	3	0
Foul Balls	6	3	0
Ball Busters	6	3	0
Sweet Ole Bill's Gang	5	4	0
The "A" Team	4	5	0
Buschleaguers	2	6	1
Mean Machine	1	7	1
Benchwarmers	0	9	0

Lucky Strikes still lead in Monday Mixed League

The Lucky Strikes continued to lead after recent action in the Union Carbide Monday Mixed Bowling League. The JW's took over second place, followed by the BC's and Potent Force.

High scorers included Bill Muenzer (593) and Sandy Travis (536), high scratch series; Nora Ward (675) and Gail Peek (609), high handicap series; Nora Ward (246) and Sandy Travis (215), high scratch game; and Scott Krebs (257), Cindy Cavender and Fannie Wheeler (both 243), high handicap game.

Patents granted

Richard T. Bell, Thomas G. Kollie and William C. Pullen, all of Y-12, and Victor M. Hovis Jr., "Corrosion-Resistant Uranium."

Jones B. Arnold and Robert M. Pardue of Y-12 and Robert R. Bursleson, "Positional Reference System for Ultraprecision Machining."

SPORTS TALK

Which team do you think will win this year's Southeastern Conference football championship?

Y-12 215796



Verdonna Wright
Nuclear Division
Employee Relations
Townsite

"I don't know who'll win the conference title this year, but I hope Tennessee does. After all, if *Sport* magazine picked the Vols to be number one in the nation, why shouldn't they finish first in the Southeastern Conference? I may just be dreaming, but I hope they win it all!"

Y-12 215795



Kendall Brady
Industrial Engineering
Y-12

"I'd pick Auburn to win it this year. They lost their fullback, tragically, but that may make them pull together. I'm a Georgia Tech graduate, but since I can't pick them to win the SEC title (because they're now in the ACC, not the SEC), I guess I'll just have to go with the Tigers."

Pad 8290 1



Pat Wooldridge
Technical Services
Paducah

"I think Georgia will win. Some polls picked the Bulldogs very early in the year, although that was before they lost Herschel Walker. But even though Walker was good, he wasn't the whole team! I think Georgia still has a good chance for a very successful season without him."

K/PH 83-2739



Ronnie Capshaw
Maintenance
ORGDP

"I think Auburn will win the championship, because they have the best team in the conference, in my opinion. They have the most talent, experience and overall ability. You would have to go with Auburn! Besides, they had a good team last year, and a lot of those players are returning."

ORNL 4814-83



Larry Finch
Computer Sciences
ORNL

"I feel Auburn is the team to beat. They have a number of quality athletes back from last year, and they should really be fired up. Alabama will be tough, and LSU looms as the dark horse. My sentimental favorite is Tennessee, and with a few lucky bounces, they might be in the race."

ORNL 4817-83



Sylvia Evans
Solid State
ORNL

"Although my hopes are for Tennessee, I feel Auburn is on the verge of winning the title. Although their schedule is tough, they have a high-powered offense and a fairly strong defense — the Tigers are alive and well! But Alabama, LSU and Georgia also have championship potential."

Paducah employees run for enjoyment, not glory

What motivates people to run, to push their bodies faster and farther? It's usually not for glory or money, or even for the hope that someday they will be good enough to win a famous marathon. So why do they run?

"I run for myself, for the relaxation," said Jim Morton of the Paducah Plant's Uranium Control group.

Frank Baggett, Paducah Electrical Maintenance, said "I enjoy my daily run and competing in area races. I don't have dreams of breaking records."

Paducah Plant Protection's Ray Wright explained, "It's mental relief after a day's work."

Ran in Fitness Classic

But Morton, Baggett and Wright ran in the Memorial Day Fitness Classic held in Paducah, and they did well, especially for men who were running for their own enjoyment. Baggett finished second in the half-marathon 40-49 age group, Morton was the top finisher in the 50-and-over category and Wright placed fifth in the 40-49 age group in the five-mile race. Yet none of the three began running with victory in mind.

They cited physical fitness as the primary reason for taking up the sport. Reflecting on the days before he started running, Morton said, "I've lost 25 pounds and I feel better about myself. I don't want to go back to the way I was."

Rewards from running

Baggett agreed. "I never have back pains now like I used to. My resting pulse is 48 beats per minute; it was never that low before."

Wright listed three rewards from his running — good health, a strong heart and a slim waist. To him, they are more valuable than ribbons.

Of the recent Fitness Classic, Morton said, "Don't brag on our times. We were just glad to enter, glad to be healthy enough to participate."

The half-marathon distance of 13 miles apparently did not faze Baggett. "With training, it's no shock to your body. If you're in shape, you don't get out of breath," he said.

Morton disagreed, saying, "At the last, I have to push, labor to maintain the pace."

Neither man could explain what it's really like to run 13 miles. They avoided descriptions of the physical exertion, as if the strain was

forgotten once the race was over. But they remembered the emotion.

"You feel better about yourself," Morton said. "To be able to go that far and survive was enough for me."

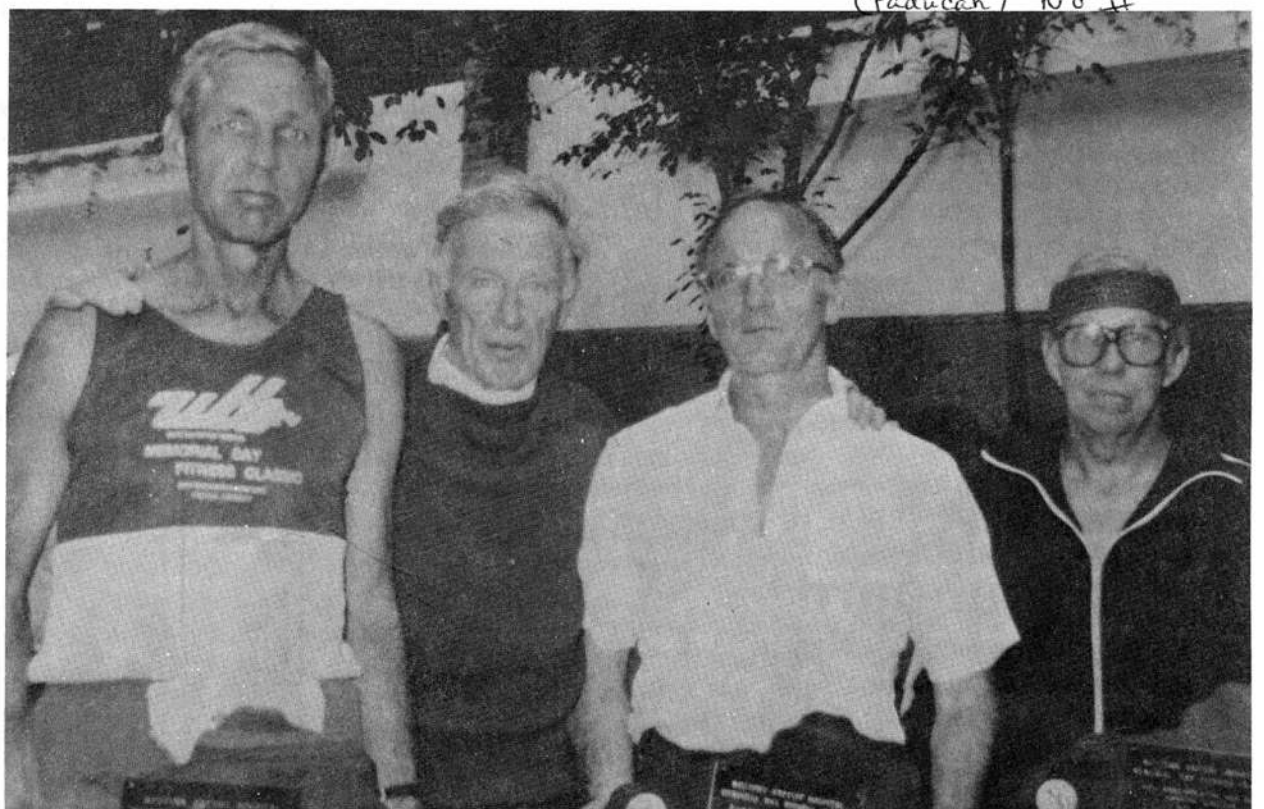
Where do they go from here? Are there other challenges to meet?

Wright talked seriously about a triathlon in Hawaii next summer. He plans to be there.

Baggett smiled when he answered, "It's a life long pursuit. I'll just run til I can't run anymore."

— L. T.

(Paducah) No #



PADUCAH RUNNERS — Victorious Paducah Plant runners received plaques from Dr. George Sheehan, cardiologist, author and feature writer for *Runner's World* magazine, who was guest speaker at the recent Fitness Classic. From left are Frank Baggett, Dr. Sheehan, Ray Wright and Jim Morton.

Researchers demonstrate robotics systems at Y-12

(Continued from page 1)

ers," Solomon said. "The resulting system can be programmed to repeatedly perform a task, such as spray-painting a door. If we want to give it another task, such as drilling a hole, we simply change the program and the hand device.

"But while such systems may be of great value, they're far from the type of devices we usually associate with the word 'robot.' These devices would be expected to exhibit at least some of the capabilities we recognize in ourselves," he said, including the ability to use two hands to manipulate objects and the ability to avoid obstacles — including people — in their paths.

These were two of the goals Solomon's team had in mind when they assembled their robotics system, which consists of an Apple II and a TRS-80 computer, linked to each other and to two Microbot MiniMover-5 robot arms. Swift and Gary Hall, an undergraduate student in mathematics at Millsaps College, Jackson, Miss., have programmed the computers to communicate with each other and control the arms as they perform their coordinated tasks.

Also working on the robotics project are Al Geist, Mathematics and Statistics Research;

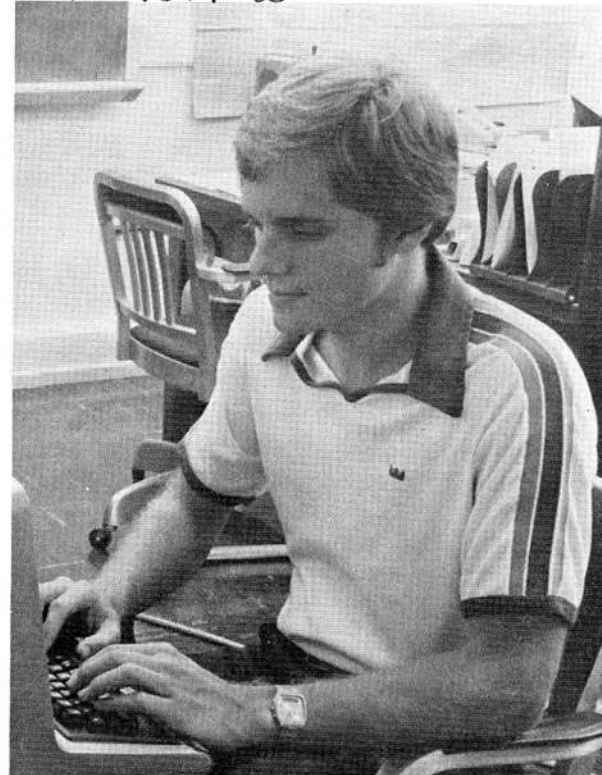
and William Howe, a student at Tennessee Technological University. The second robot arm system was loaned for the project by ORNL's Engineering Physics Division.

The two computers "think" on different levels, one handling the movement strategy and supervising the other, which operates the arms. These separate tasks could not be accomplished by just one present-day computer, which can do only one job at a time, Solomon said, although the next generation of computers might have this capability. He said more powerful computers would not enable the arms to do their tasks better, only faster.

The team would like in the future to upgrade their system to incorporate computer "vision," using a computer-linked camera, and advanced techniques for obstacle avoidance, which Solomon described as important both for efficient operation and for the safety of humans working near robots.

"Humans can avoid objects because we are able to sort out 'near' from 'distant' objects; we have an effective picture of our surroundings," he said. "How to teach robotic devices to do this is an exciting and difficult area of robotics development."

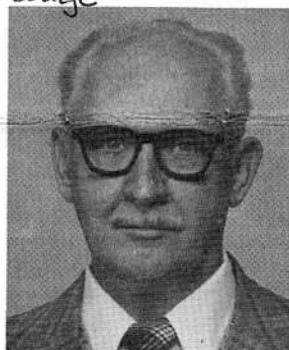
Y-12 7317-83



LAYING THE GROUNDWORK — UT graduate student Thomas Swift programs his computer in preparation for an object-handling task by the robot arms.

Nuclear Division Service Anniversaries

Badge



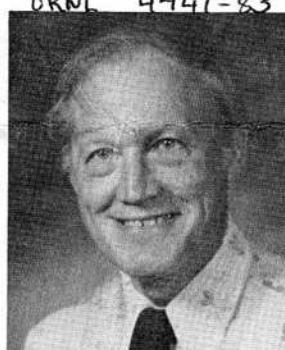
Richard J. Fox
Instrumentation
and Controls
ORNL
40 years

ORNL 4442-83



John W. Boyle Jr.
Energy
ORNL
40 years

ORNL 4441-83



William A. Singleton
Laboratory Protection
ORNL
40 years

ORNL

35 YEARS

Robert W. Schaich, Operations; John R. Sites, Analytical Chemistry; Ruby D. Wilkerson, Biology; and Ed C. Long Jr., Computer Sciences.

30 YEARS

William W. Stringer, Plant and Equipment; Joseph D.

Pendleton, Analytical Chemistry; John R. Engel, Central Management; and Hugo W. Bertini, Engineering Technology.

25 YEARS

Eugene H. Perkins, Ed H. Grell, Samuel E. Moore, Harry C. Young and Hal M. Butler Jr.

20 YEARS

Curtis L. Fitzgerald, James R. Gibson, Virgil C. Miller, Robert S. Thomas, Marvin M. Abraham, Anthony C. Schaffhauser and James R. Duncan.

Y-12

30 YEARS

Paul Craven, Engineering; Thurston L. Boshears, Industrial Engineering; Rayburn C. Waldrop and Earl W. Stooksbury, Development; Lacie W. Blevins, Metal Preparation; and Elizabeth H. Tomlinson, William R. Hicks and Coy Crutchfield, Product Certification.

25 YEARS

Ronald W. Taylor and Sam Moore.

20 YEARS

William W. Johnson, Bernard D. McElroy, Lester L. Kilgore Jr. and Franklin D. Poland.

PADUCAH

30 YEARS

Earnest Griffin, Janitorial Department.

Safety Scoreboard

SAFETY TIP: To help prevent fires in your home, have all chimney and flue connections checked by a qualified service person at least once a year.

Time worked without a lost-time accident through August 31:

Y-12 Plant.....	141 Days	5,176,000 Employee-Hours
ORGDP	107 Days	2,211,600 Employee-Hours
ORNL	35 Days	759,150 Employee-Hours
Paducah.....	1,128 Days	8,908,551 Employee-Hours

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